

# MapMyUni



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## Abstract

A campus navigation tool using Dijkstra's algorithm calculates shortest paths, optimizing routes for students, faculty, and visitors efficiently.

## Problem Statement

Efficient campus navigation is crucial, as newcomers often struggle with large layouts. A tool calculating shortest paths addresses this.



## Areas of Application

- For navigation large university campuses
- For hospitals in big cities for calculating shortest distance during emergencies

## MapMyUni

MapMyUni aids campus navigation, guiding newcomers to classrooms, libraries, and offices, saving time, reducing confusion, and enhancing exploration.

## Methodology

Graph modeling using adjacency lists, Dijkstra's algorithm, priority queues for shortest paths, and user input-output for efficient navigation.

### Strengths

Provides efficient, user-friendly campus navigation, reducing orientation time for newcomers.

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### Weaknesses

Reliance on campus infrastructure (Wi-Fi, GPS) may limit performance in areas with poor connectivity.

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### Opportunities

Can be expanded to include additional features like event notifications, public transport integration, or virtual tours.

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### Threats

Competing navigation apps or manual navigation methods may diminish its adoption rate.

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## DATA STRUCTURES

**Adjacency List**

used for  
graph representation

**Priority Queue**

used for  
efficient node selection

**Distance Table**

used to store all the  
pathways from  
each location